ABSTRACT

An original image (10), a recording surface (20), and a reference light (R) are defined and a large number of calculation points (Q(x, y)) are defined at a predetermined pitch on the recording surface (20). For each of the calculation points, intensity of interference wave, formed by an object light (O1 to ON) generated from the respective parts (P1 to PN) of the original image (10) and a reference light (R), is calculated. A binary pattern defined by dividing a unit area into a first area having a pixel value "white" and a second area having a pixel value "black" is defined in a plurality of ways by changing the occupancy ratio (0 to 100%) of the first area. A binary pattern having the occupancy ratio corresponding to the interference wave intensity calculated, is assigned to the position of the respective calculation points (Q) on the recording surface (20) so as to form a binary image and create a computer hologram medium having convex and concave portions. By setting the vertical and horizontal pitched of the calculation points (Q) to 400nm or below, it is possible to reduce the unnecessary noise component generated during observation and obtain a clear reproduction area.

26